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NEWS 2 Jan 25 BLAST(R) searching in REGISTRY available in STN on the Web  
NEWS 3 Jan 29 FSTA has been reloaded and moves to weekly updates  
NEWS 4 Feb 01 DKILIT now produced by FIZ Karlsruhe and has a new update frequency  
NEWS 5 Feb 19 Access via Tymnet and SprintNet Eliminated Effective 3/31/02  
NEWS 6 Mar 08 Gene Names now available in BIOSIS  
NEWS 7 Mar 22 TOXLIT no longer available  
NEWS 8 Mar 22 TRCTHERMO no longer available  
NEWS 9 Mar 28 US Provisional Priorities searched with P in CA/Caplus and USPATFULL  
NEWS 10 Mar 28 LIPINSKI/CALC added for property searching in REGISTRY  
NEWS 11 Apr 02 PAPERCHEM no longer available on STN. Use PAPERCHEM2 instead.  
NEWS 12 Apr 08 "Ask CAS" for self-help around the clock  
NEWS 13 Apr 09 BEILSTEIN: Reload and Implementation of a New Subject Area  
NEWS 14 Apr 09 ZDB will be removed from STN  
NEWS 15 Apr 19 US Patent Applications available in IFICDB, IFIPAT, and IFIUDB  
NEWS 16 Apr 22 Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS  
NEWS 17 Apr 22 BIOSIS Gene Names now available in TOXCENTER  
NEWS 18 Apr 22 Federal Research in Progress (FEDRIP) now available  
NEWS 19 Jun 03 New e-mail delivery for search results now available  
NEWS 20 Jun 10 MEDLINE Reload  
NEWS 21 Jun 10 PCTFULL has been reloaded  
NEWS 22 Jul 02 FOREGE no longer contains STANDARDS file segment  
NEWS 23 Jul 19 NTIS to be reloaded July 28, 2002  
NEWS 24 Jul 22 USAN to be reloaded July 28, 2002; saved answer sets no longer valid  
NEWS 25 Jul 29 Enhanced polymer searching in REGISTRY  
NEWS 26 Jul 30 NETFIRST to be removed from STN  
  
NEWS EXPRESS February 1 CURRENT WINDOWS VERSION IS V6.0d, CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP), AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002  
NEWS HOURS STN Operating Hours Plus Help Desk Availability  
NEWS INTER General Internet Information  
NEWS LOGIN Welcome Banner and News Items  
NEWS PHONE Direct Dial and Telecommunication Network Access to STN  
NEWS WWW CAS World Wide Web Site (general information)

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=> s galactosyl (2w)transferase  
 L1 2839 GALACTOSYL (2W) TRANSFERASE

=> s l1 (10a) acetylglucosamine  
 L2 52 L1 (10A) ACETYLGLUCOSAMINE

=> s l2 (10a) 1,3  
 9 FILES SEARCHED...  
 L3 1 L2 (10A) 1,3

=> d

L3 ANSWER 1 OF 1 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
 AN 2002:386156 BIOSIS  
 DN PREV200200386156  
 TI Augmented expression of N-acetylglucosamine beta1,3galactosyl-transferase  
 5 (beta 3GalT5) in pancreatic cancer.  
 AU Hayashi, Nobuyasu (1); Nakamori, Shoji (1); Okami, Jiro (1); Nagano,  
 Hiroaki (1); Dono, Keizo (1); Umeshita, Koji (1); Sakon, Masato (1);  
 Monden, Morito (1)  
 CS (1) Department of Surgery and Clinical Oncology, Graduate School of  
 Medicine, Osaka University, Osaka Japan  
 SO Proceedings of the American Association for Cancer Research Annual  
 Meeting, (March, 2002) Vol. 43, pp. 107. print.  
 Meeting Info.: 93rd Annual Meeting of the American Association for Cancer  
 Research San Francisco, California, USA April 06-10, 2002

ISSN: 0197-016X.  
DT Conference  
LA English

=> s l2 and 1,3  
6 FILES SEARCHED...  
10 FILES SEARCHED...  
L4 10 L2 AND 1,3

=> dup rem l4  
PROCESSING COMPLETED FOR L4  
L5 7 DUP REM L4 (3 DUPLICATES REMOVED)

=> d 1-7

L5 ANSWER 1 OF 7 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 2002:386156 BIOSIS  
DN PREV200200386156  
TI Augmented expression of N-acetylglucosamine beta1,3galactosyl-transferase  
5 (beta 3GalT5) in pancreatic cancer.  
AU Hayashi, Nobuyasu (1); Nakamori, Shoji (1); Okami, Jiro (1); Nagano,  
Hiroaki (1); Dono, Keizo (1); Umeshita, Koji (1); Sakon, Masato (1);  
Monden, Morito (1)  
CS (1) Department of Surgery and Clinical Oncology, Graduate School of  
Medicine, Osaka University, Osaka Japan  
SO Proceedings of the American Association for Cancer Research Annual  
Meeting, (March, 2002) Vol. 43, pp. 107. print.  
Meeting Info.: 93rd Annual Meeting of the American Association for Cancer  
Research San Francisco, California, USA April 06-10, 2002  
ISSN: 0197-016X.  
DT Conference  
LA English

L5 ANSWER 2 OF 7 MEDLINE  
AN 2001037761 MEDLINE  
DN 20490358 PubMed ID: 11032794  
TI X-ray crystal structure of rabbit N-acetylglucosaminyltransferase I:  
catalytic mechanism and a new protein superfamily.  
AU Unligil U M; Zhou S; Yuwaraj S; Sarkar M; Schachter H; Rini J M  
CS Department of Medical Genetics and Microbiology, University of Toronto,  
Toronto, Ontario M5S 1A8, Canada.  
NC RR-01646 (NCRR)  
SO EMBO JOURNAL, (2000 Oct 16) 19 (20) 5269-80.  
Journal code: 8208664. ISSN: 0261-4189.  
CY ENGLAND: United Kingdom  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
OS PDB-1FO8; PDB-1FO9; PDB-1FOA  
EM 200011  
ED Entered STN: 20010322  
Last Updated on STN: 20010322  
Entered Medline: 20001128

L5 ANSWER 3 OF 7 MEDLINE  
AN 92317047 MEDLINE  
DN 92317047 PubMed ID: 1320016  
TI Characterization of a rat liver protein carboxyl methyltransferase  
involved in the maturation of proteins with the -CXXX C-terminal sequence  
motif.  
AU Stephenson R C; Clarke S  
CS Department of Chemistry and Biochemistry, University of California, Los  
Angeles 90024.  
NC GM 07185 (NIGMS)  
GM 26020 (NIGMS)  
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1992 Jul 5) 267 (19) 13314-9.  
Journal code: 2985121R. ISSN: 0021-9258.  
CY United States

DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 199208  
ED Entered STN: 19920815  
Last Updated on STN: 19920815  
Entered Medline: 19920805

L5 ANSWER 4 OF 7 MEDLINE  
AN 90354395 MEDLINE  
DN 90354395 PubMed ID: 2117606  
TI Identification of a region of UDP-galactose:N-acetylglucosamine beta  
4-galactosyltransferase involved in UDP-galactose binding by differential  
labeling.  
AU Yadav S; Brew K  
CS Department of Biochemistry and Molecular Biology, University of Miami,  
Florida 33136-1015.  
NC GM21363 (NIGMS)  
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1990 Aug 25) 265 (24) 14163-9.  
Journal code: 2985121R. ISSN: 0021-9258.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 199009  
ED Entered STN: 19901026  
Last Updated on STN: 19970203  
Entered Medline: 19900927

L5 ANSWER 5 OF 7 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1  
AN 1988:87569 BIOSIS  
DN BA85:44341  
TI MODULATION OF TWO DISTINCT GALACTOSYLTRANSFERASE ACTIVITIES IN POPULATIONS  
OF MOUSE PERITONEAL MACROPHAGES.  
AU SHEARES B T; MERCURIO A M  
CS MERCK SHARP AND DOHME RES. LABS, P.O. BOX 2000, RAHWAY, N.J. 07065, USA.  
SO J IMMUNOL, (1987) 139 (11), 3748-3752.  
CODEN: JOIMA3. ISSN: 0022-1767.  
FS BA; OLD  
LA English

L5 ANSWER 6 OF 7 MEDLINE DUPLICATE 2  
AN 81086980 MEDLINE  
DN 81086980 PubMed ID: 6778507  
TI Role of galactosyl-transferases in rat gastric epithelial glycoprotein  
synthesis.  
AU Strous G J; Hendriks H G; Kramer M F  
SO BIOCHIMICA ET BIOPHYSICA ACTA, (1980 Jun 13) 613 (2) 381-91.  
Journal code: 0217513. ISSN: 0006-3002.  
CY Netherlands  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 198103  
ED Entered STN: 19900316  
Last Updated on STN: 19900316  
Entered Medline: 19810327

L5 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2002 ACS  
AN 1971:417038 HCAPLUS  
DN 75:17038  
TI Isolation of a Golgi apparatus-rich fraction from rat liver. IV.  
Thiamine pyrophosphatase  
AU Cheetham, R. D.; Morre, D. James; Pannek, Carol; Friend, Daniel S.  
CS Dep. Bot. Plant Pathol., Purdue Univ., Lafayette, Indiana, USA  
SO J. Cell Biol. (1971), 49(3), 899-905  
CODEN: JCLBA3  
DT Journal  
LA English

=> d 2,4-6 ab

L5 ANSWER 2 OF 7 MEDLINE

AB N:-acetylglucosaminyltransferase I (GnT I) serves as the gateway from oligomannose to hybrid and complex N:-glycans and plays a critical role in mammalian development and possibly all metazoans. We have determined the X-ray crystal structure of the catalytic fragment of GnT I in the absence and presence of bound UDP-GlcNAc/Mn(2+) at 1.5 and 1.8 A resolution, respectively. The structures identify residues critical for substrate binding and catalysis and provide evidence for similarity, at the mechanistic level, to the deglycosylation step of retaining beta-glycosidases. The structuring of a 13 residue loop, resulting from UDP-GlcNAc/Mn(2+) binding, provides an explanation for the ordered sequential 'Bi Bi' kinetics shown by GnT I. Analysis reveals a domain shared with *Bacillus subtilis* glycosyltransferase SpsA, bovine beta-1,4-**galactosyl transferase** 1 and *Escherichia coli* N:-**acetylglucosamine**-1-phosphate uridyltransferase. The low sequence identity, conserved fold and related functional features shown by this domain define a superfamily whose members probably share a common ancestor. Sequence analysis and protein threading show that the domain is represented in proteins from several glycosyltransferase families.

L5 ANSWER 4 OF 7 MEDLINE

AB The location of regions in the primary structure of UDP-galactose:N-**acetylglucosamine** beta 4-**galactosyl-transferase** (GT) that are involved in binding UDP-galactose has been investigated by differential chemical modification with two different reagents in the presence and absence of UDP-galactose. Treatment with periodate-cleaved UDP and NaCNBH3 resulted in a loss of 80% of GT activity, which was largely prevented by UDP-galactose. Stoichiometry of labeling and peptide maps of the modified enzyme samples indicated partial labeling at many sites. A major site of reaction in the absence of UDP-galactose that was essentially unmodified in its presence was found to correspond to Lys341 in the cDNA sequence of GT. As a second approach, the reactivities of the amino groups of GT were compared in the presence and absence of saturating levels of UDP-galactose by trace acetylation with [3H]acetic anhydride. UDP-galactose binding was found to perturb the reactivities of a number of lysines in the C-terminal region of GT, the most pronounced effect being a reduction in the reactivity of Lys351. The two procedures thus identified a region between residues 341 and 351 as being associated with UDP-galactose binding. This region overlaps a small section in the sequence of GT that was previously noted to be similar to part of bovine alpha-1,3-galactosyltransferase (Joziase, D. H., Shaper, J. H., Van den Eijnden, D. H., Van Tunen, A. J., and Shaper, N. L. (1989) *J. Biol. Chem.* 264, 14290-14297). Sequence comparisons indicate that extended regions at the C terminus of each enzyme encompassing this area may represent homologous UDP-galactose-binding domains.

L5 ANSWER 5 OF 7 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1

AB We have examined two galactosyltransferase activities in membrane preparations obtained from resident macrophages, from resident macrophages maintained in culture for 24 hr, and from thioglycollate (TG)-elicited macrophages. Transfer of galactose from uridine diphosphate (UDP)-galactose to N-acetylglucosamine is 2.6 times higher in membranes prepared from TG macrophages (107 +/- 5.5 nmol/hr/mg) than in membranes prepared from resident macrophages (41 +/- 2.0 nmol/hr/mg). Membranes obtained from resident macrophages cultured for 24 hr exhibit a 2.5 times higher activity (102 +/- 4.4 nmol/hr/mg) than membranes from resident cells plated for 4 hr. Transferase activity in membranes derived from TG macrophages is not significantly affected by overnight culture. The transferase reaction product, isolated on Bio-Gel P-4 and analyzed by galactosidase treatments, was identified as galactosyl-.beta.1,4-N-acetylglucosamine. The enzyme, therefore, is UDP-galactose:2-acetamido-2-deoxy-D-glucose 4.beta.-galactosyltransferase. This is supported by the fact that this **galactosyl-transferase** activity is specifically inhibited by high concentrations of N-**acetylglucosamine** (200 mM). We have also examined the transfer of

galactose to N-acetylglucosamine. Membranes from TG-elicited macrophages contain a UDP-galactose:galactosyl-.beta.1,4-N-acetylglucosamine 3.alpha.-galactosyltransferase which synthesizes the trisaccharide, galactosyl-.alpha.1,3-galactosyl-.beta.1,4-N-acetylglucosamine. This product was identified by gel filtration chromatography, high performance liquid chromatography, and galactosidase digestions. This .alpha.-galactosyl-transferase activity was not detected in membranes prepared from resident macrophages. These results indicate that glycosyltransferase activities are modulated in populations of mouse macrophages, and that these changes correlate with changes in cell surface lactosaminoglycans reported previously.

L5 ANSWER 6 OF 7 MEDLINE DUPLICATE 2  
 AB Two galactosyl-transferases have been found in the Golgi-enriched subcellular fractions derived from rat gastric mucosa. One incorporates galactose into ovomucoid at optimal pH 6.8. The reaction can be completely inhibited by acetylglucosamine. The apparent Km for UDPgalactose is 0.024 mM. The other galactosyl-transferase incorporates galactose into desialated ovine submaxillary mucin at optimal pH 7.5 and the transfer cannot be inhibited by acetylglucosamine. The apparent Km for UDPgalactose is 0.191 mM. Both enzymes require Mn2+ and Triton X-100 for optimal galactose incorporation. The enzymes could be separated by polyacrylamide gel electrophoresis. Incorporation into endogenous glycoprotein was studied in conditions optimal for the two galactosyl-transferases: (1) at pH 6.8, using Mes as buffer system, and (2) at pH 7.5, using Tris-HCl in the presence of an inhibitory excess of acetylglucosamine. In both cases, most radioactive galactose is incorporated into macromolecules, which could be identified as epithelial glycoprotein. Endogenous incorporation in the presence of excess acetylglucosamine results in the formation of a substantial amount of a disaccharide (probably galactose-beta-(1-3)acetylgalactosamine), whereas upon incorporation at pH 6.8 almost no disaccharide is formed. Quantitative immunoprecipitation experiments with specific antibodies to the endogenous product, labelled by [3H]galactose in the presence of varying amounts of desialated ovine submaxillary mucin and/or **acetylglucosamine**, indicated that other **galactosyl-transferases** are involved in the biosynthesis of epithelial glycoprotein.

=> s l1 and acetylglucosamine  
 L6 257 L1 AND ACETYLGLUCOSAMINE  
 => s l6 not l2  
 L7 205 L6 NOT L2  
 => dup rem l7  
 PROCESSING COMPLETED FOR L7  
 L8 153 DUP REM L7 (52 DUPLICATES REMOVED)  
 => s l7 and 1,3  
 6 FILES SEARCHED...  
 10 FILES SEARCHED...  
 L9 17 L7 AND 1,3  
 => dup rem l9  
 PROCESSING COMPLETED FOR L9  
 L10 15 DUP REM L9 (2 DUPLICATES REMOVED)  
 => d 1-10

L10 ANSWER 1 OF 15 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.DUPLICATE 1  
 AN 2002252159 EMBASE  
 TI A new fermentation process allows large-scale production of human milk oligosaccharides by metabolically engineered bacteria.  
 AU Priem B.; Gilbert M.; Wakarchuk W.W.; Heyraud A.; Samain E.  
 CS E. Samain, Centre de Rech. Macromol. Vegetales, CNRS, Joseph Fourier University, BP 53, 38041 Grenoble Cedex 9, France  
 SO Glycobiology, (2002) 12/4 (235-240).  
 Refs: 19

ISSN: 0959-6658 CODEN: CE3  
CY United Kingdom  
DT Journal; Article  
FS 004 Microbiology  
LA English  
SL English

L10 ANSWER 2 OF 15 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.DUPLICATE 2  
AN 2001250777 EMBASE  
TI Synthesis of linear-B saccharopeptides via enzymatic galactosylation of  
non-natural glucosamide acceptors.  
AU Schwardt O.; Baisch G.; Ohrlein R.  
CS O. Schwardt, University of Basel, Institute of Molecular Pharmacy,  
Klingelbergstrasse 50, CH-4056 Basel, Switzerland.  
oliver.schwardt@unibas.ch  
SO Bioorganic and Medicinal Chemistry, (2001) 9/7 (1857-1869).  
Refs: 40

ISSN: 0968-0896 CODEN: BMECEP  
PUI S 0968-0896(01)00086-4  
CY United Kingdom  
DT Journal; Article  
FS 029 Clinical Biochemistry  
030 Pharmacology  
037 Drug Literature Index  
LA English  
SL English; English

L10 ANSWER 3 OF 15 MEDLINE  
AN 2000077662 MEDLINE  
DN 20077662 PubMed ID: 10612415  
TI Substrate and donor specificity of glycosyl transferases.  
AU Ernst B; Oehrlein R  
CS University of Basel, Institute of Molecular Pharmacy, Switzerland..  
ERNSTB@ubaclu.unibas.ch  
SO GLYCOCONJUGATE JOURNAL, (1999 Feb) 16 (2) 161-70. Ref: 56  
Journal code: 8603310. ISSN: 0282-0080.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
General Review; (REVIEW)  
(REVIEW, TUTORIAL)  
LA English  
FS Priority Journals  
EM 200001  
ED Entered STN: 20000131  
Last Updated on STN: 20000131  
Entered Medline: 20000114

L10 ANSWER 4 OF 15 MEDLINE  
AN 1999056378 MEDLINE  
DN 99056378 PubMed ID: 9838999  
TI Glycosyl-transferase catalyzed assemblage of sialyl-Lewis(x)-  
saccharopeptides.  
AU Baisch G; Ohrlein R  
CS Novartis Pharma AG, Basle, Switzerland.  
SO BIOORGANIC AND MEDICINAL CHEMISTRY, (1998 Oct) 6 (10) 1673-82.  
Journal code: 9413298. ISSN: 0968-0896.  
CY ENGLAND: United Kingdom  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 199901  
ED Entered STN: 19990209  
Last Updated on STN: 19990209  
Entered Medline: 19990122

L10 ANSWER 5 OF 15 SCISEARCH COPYRIGHT 2002 ISI (R)  
AN 96:344513 SCISEARCH  
GA The Genuine Article (R) Number: UH104  
TI N-GLYCOSYLATION IN INSECTS REVISITED

AU ALTMANN F (Reprint)  
CS UNIV WIEN, INST CHEM, A-1180 VIENNA, AUSTRIA  
CYA AUSTRIA  
SO TRENDS IN GLYCOSCIENCE AND GLYCOTECHNOLOGY, (MAR 1996) Vol. 8, No. 40, pp. 101-114.  
ISSN: 0915-7352.  
DT General Review; Journal  
LA ENGLISH  
REC Reference Count: 66  
\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L10 ANSWER 6 OF 15 SCISEARCH COPYRIGHT 2002 ISI (R)  
AN 94:674876 SCISEARCH  
GA The Genuine Article (R) Number: PM561  
TI COMPARATIVE-STUDIES ON THE URIDINE-5'-DIPHOSPHATE-GALACTOSE - GLYCOPROTEIN GALACTOSYLTRANSFERASE ACTIVITY IN RAT-LIVER AND ZAJDELA ASCITIC HEPATOMA  
AU IVANOV D; KARAIVANOVA V; IVANOV S; CHELIBONOVALORER H (Reprint)  
CS BULGARIAN ACAD SCI, INST GEN & COMPARAT PATHOL, BU-1113 SOFIA, BULGARIA (Reprint); BULGARIAN ACAD SCI, INST GEN & COMPARAT PATHOL, BU-1113 SOFIA, BULGARIA  
CYA BULGARIA  
SO CANCER BIOCHEMISTRY BIOPHYSICS, (1994) Vol. 14, No. 1, pp. 35-40.  
ISSN: 0305-7232.  
DT Article; Journal  
FS LIFE  
LA ENGLISH  
REC Reference Count: 29  
\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L10 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2002 ACS  
AN 1992:231228 HCAPLUS  
DN 116:231228  
TI Characterication of O-linked oligosaccharide biosynthesis in cultured cells using paranitrophenyl .alpha.-D-GalNAc as an acceptor  
AU Zhuang, Daoling; Grey, Arthur; Harris-Brandts, Marees; Higgins, Elizabeth; Kashem, Mohammed A.; Dennis, James W.  
CS Samuel Lunenfeld Res. Inst., Mt. Sinai Hosp., Toronto, ON, M5G 1X5, Can.  
SO Glycobiology (1991), 1(4), 425-33  
CODEN: GLYCE3  
DT Journal  
LA English

L10 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2002 ACS  
AN 1985:451440 HCAPLUS  
DN 103:51440  
TI Embryonic and adult forms of two galactosyltransferases differ in their degrees of sialylation  
AU Furukawa, Kiyoshi; Roth, Stephen  
CS Dep. Biol., Univ. Pennsylvania, Philadelphia, PA, USA  
SO Eur. J. Biochem. (1985), 150(1), 175-80  
CODEN: EJBCAI; ISSN: 0014-2956  
DT Journal  
LA English

L10 ANSWER 9 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1984:322385 BIOSIS  
DN BA78:58865  
TI BRANCH SPECIFICITY OF PURIFIED RAT LIVER GOLGI UDP GALACTOSE N ACETYL GLUCOSAMINE BETA-1 4 **GALACTOSYL TRANSFERASE**  
EC-2.4.1.22 PREFERENTIAL TRANSFER OF GALACTOSE ON THE N ACETYLGLUCOSAMINYL-BETA-1 2-MANNOSYL-ALPHA-1 3 BRANCH OF A COMPLEX ASPARAGINE LINKED OLIGO SACCHARIDE.  
AU PAQUET M R; NARASIMHAN S; SCHACHTER H; MOSCARELLO M A  
CS DEP. BIOCHEMISTRY, RES. INST., HOSPITAL SICK CHILDREN, TORONTO, ONT., CAN. M5G 1X8.  
SO J BIOL CHEM, (1984) 259 (8), 4716-4721.  
CODEN: JBCHA3. ISSN: 0021-9258.  
FS BA; OLD  
LA English



L10 ANSWER 10 OF 15 MEDLINE  
AN 85003654 MEDLINE  
DN 85003654 PubMed ID: 6434310  
TI **Galactosyl transferases** of baby hamster kidney (BHK) cells. Characterization of two oligosaccharide products synthesised using bovine asialo submaxillary-gland mucin as acceptor.  
AU Gleeson P A; Feeney J; Mills G; Hughes R C  
SO EUROPEAN JOURNAL OF BIOCHEMISTRY, (1984 Oct 1) 144 (1) 143-50.  
Journal code: 0107600. ISSN: 0014-2956.  
CY GERMANY, WEST: Germany, Federal Republic of  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 198411  
ED Entered STN: 19900320  
Last Updated on STN: 19900320  
Entered Medline: 19841109

=> d 3 ab

L10 ANSWER 3 OF 15 MEDLINE  
AB It has been shown that all selectins recognize the carbohydrate epitopes sialyl Lewis(x) and sialyl Lewis(a). For the establishment of the structure-activity relationship, the efficient synthesis of these tetrasaccharides and derivatives is therefore of vital interest. The glycosyl transferase-mediated approach is summarized with emphasis on the use of modified acceptors and modified sugar-nucleotide donors. A survey of the involved enzymes: beta(1-3) and beta(1-4) **galactosyl transferases**, alpha(2-3)sialyl transferase, FucT III and FucT VI reveals that the enzymatic synthesis is highly efficient for the rapid preparation of sialyl Lewis(x)- and sialyl Lewis(a)-derivatives.

=> d 11-15

L10 ANSWER 11 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1984:182458 BIOSIS  
DN BA77:15442  
TI CHARACTERIZATION OF UDP GALACTOSE 2 ACETAMIDO-2-DEOXY-D GLUCOSE 3-BETA **GALACTOSYL TRANSFERASE** FROM PIG TRACHEA.  
AU SHEARES B T; CARLSON D M  
CS DEP. BIOCHEM., PURDUE UNIV., WEST LAFAYETTE, INDIANA 47907.  
SO J BIOL CHEM, (1983) 258 (16), 9893-9898.  
CODEN: JBCHA3. ISSN: 0021-9258.  
FS BA; OLD  
LA English

L10 ANSWER 12 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1982:245956 BIOSIS  
DN BA74:18436  
TI BIOSYNTHESIS OF GALACTOSYL-BETA-1 3-N-ACETYL GLUCOSAMINE.  
AU SHEARES B T; LAU J T Y; CARLSON D M  
CS DEP. BIOCHEM., PURDUE UNIV., WEST LAFAYETTE, IND. 47907.  
SO J BIOL CHEM, (1982) 257 (2), 599-602.  
CODEN: JBCHA3. ISSN: 0021-9258.  
FS BA; OLD  
LA English

L10 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2002 ACS  
AN 1980:527681 HCAPLUS  
DN 93:127681  
TI Role of **galactosyl-transferases** in rat gastric epithelial glycoprotein synthesis  
AU Strous, Ger J. A. M.; Hendriks, Henno G. Ch. J. M.; Kramer, Mebius F.  
CS Med. Sch., State Univ., Utrecht, 3511 HG, Neth.

SO Biochim. Biophys. Acta ( ), 613(2), 381-91  
CODEN: BBACAQ; ISSN: 0006-3002  
DT Journal  
LA English

L10 ANSWER 14 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1979:231765 BIOSIS  
DN BA68:34269  
TI INVOLVEMENT OF HISTIDINE 32 IN THE BIOLOGICAL ACTIVITY OF ALPHA LACT  
ALBUMIN.  
AU PRIEELS J-P; BELL J E; SCHINDLER M; CASTELLINO F J; HILL R L  
CS DEP. BIOCHEM., DUKE UNIV. MED. CENT., DURHAM, N.C. 27710, USA.  
SO BIOCHEMISTRY, (1979) 18 (9), 1771-1776.  
CODEN: BICHAW. ISSN: 0006-2960.  
FS BA; OLD  
LA English

L10 ANSWER 15 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1979:149343 BIOSIS  
DN BA67:29343  
TI ISOLATION AND CHARACTERIZATION OF A GOLGI-RICH FRACTION FROM THE HARDING  
PASSEY MOUSE MELANOMA.  
AU SEIJI M; MORO S; TOMITA Y  
CS DEP. DERMATOL., TOHOKU UNIV. SCH. MED., SENDAI 980, MIYAGI, JPN.  
SO TOHOKU J EXP MED, (1978) 126 (1), 63-70.  
CODEN: TJEMAO. ISSN: 0040-8727.  
FS BA; OLD  
LA English

=> d 12 ab

L10 ANSWER 12 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AB The biosynthesis of galactosyl-.beta.1,3,-N-  
**acetylglucosamine** was demonstrated using membrane preparations  
from pig trachea. Unlike the UDP-galactose:2-acetamido-2-deoxy-D-glucose-  
4.beta.-galactosyltransferase [EC 2.4.1.22; 2.4.1.38] which is inhibited  
by high levels of N-**acetylglucosamine**, the UDP-galactose:N-  
**acetylglucosamine** 3.beta.-galactosyltransferase shows no  
inhibition at 200 mM N-**acetylglucosamine**. About 80% of the total  
disaccharide synthesized at 200 mM N-**acetylglucosamine** was  
base-labile, suggesting the 1,3-linkage.  
.alpha.-Lactalbumin inhibits galactose incorporation into  
galactosyl-.beta.1,4-N-**acetylglucosamine** but has little or no  
effect on the activity of the 1,3-  
galactosyltransferase. Escherichia coli .beta.-galactosidase readily  
hydrolyzed the base-stable product, but not the base-labile component. The  
apparent 1,3-linked disaccharide was reduced with  
NaBH4 and was isolated by Bio-Gel P-2 column chromatography. Methylation  
analysis by gas chromatography/mass spectrometry showed tetramethyl  
galactose and a 3-substituted N-acetylglucosaminitol. Neither the  
.beta.1,4 nor the .beta.1,3 disaccharide was  
hydrolyzed by green coffee bean .alpha.-galactosidase. Both disaccharides  
were readily hydrolyzed by bovine testes .beta.-galactosidase. This is the  
1st report on the galactosyltransferase which catalyzes the synthesis of  
the galactosyl-.beta.1,3-N-**acetylglucosamine**  
linkage such as found in the Type I chain of human blood group substances.  
A tissue survey in rats showed only rat intestine to have readily  
detectable UDP-galactose:N-**acetylglucosamine**  
3.beta.-galactosyltransferase activity. The intestinal membrane fraction  
like the tracheal enzyme catalyzes the synthesis of 2 disaccharides as  
judged by base treatment; these appear to be the .beta.1,  
3 and .beta.1,4 isomers of galactosyl-N-**acetylglucosamine**

=> s 16 and streptococcus

L11 0 L6 AND STREPTOCOCCUS

=> s galactosyl (3w)transferase  
L12 2894 GALACTOSYL (3W) TRANSFERASE

=> s l12 and streptococcus  
L13 13 L12 AND STREPTOCOCCUS

=> dup rem l13  
PROCESSING COMPLETED FOR L13  
L14 6 DUP REM L13 (7 DUPLICATES REMOVED)

=> d 1-6

L14 ANSWER 1 OF 6 MEDLINE DUPLICATE 1  
AN 2000099859 MEDLINE  
DN 20099859 PubMed ID: 10634042  
TI Upregulated expression of the cDNA fragment possibly related to the virulence of *Acanthamoeba culbertsoni*.  
AU Im K I; Park K M; Yong T S; Hong Y P; Kim T E  
CS Department of Parasitology, Yonsei University College of Medicine, Seoul, Korea.  
SO KOREAN JOURNAL OF PARASITOLOGY, (1999 Dec) 37 (4) 257-63.  
Journal code: 9435800. ISSN: 0023-4001.  
CY KOREA (SOUTH)  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 200004  
ED Entered STN: 20000505  
Last Updated on STN: 20000505  
Entered Medline: 20000421

L14 ANSWER 2 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1995:290721 BIOSIS  
DN PREV199598305021  
TI Characterization of **Galactosyl Transferase** of Group B **Streptococcus**.  
AU Deng, Lingyi (1); Haft, Rachel F.; Wessels, Michael R.  
CS (1) Brigham and Women's Hospital, Boston, MA USA  
SO Abstracts of the General Meeting of the American Society for Microbiology, (1995) Vol. 95, No. 0, pp. 245.  
Meeting Info.: '95th General Meeting of the American Society for Microbiology Washington, D.C., USA May 21-25, 1995  
ISSN: 1060-2011.  
DT Conference  
LA English

L14 ANSWER 3 OF 6 MEDLINE DUPLICATE 2  
AN 93360815 MEDLINE  
DN 93360815 PubMed ID: 8355611  
TI Identification of cpsD, a gene essential for type III capsule expression in group B streptococci.  
AU Rubens C E; Heggen L M; Haft R F; Wessels M R  
CS Division of Infectious Disease, Children's Hospital and Medical Center, Seattle, Washington 98105.  
NC AI22498 (NIAID)  
AI28040 (NIAID)  
SO MOLECULAR MICROBIOLOGY, (1993 May) 8 (5) 843-55.  
Journal code: 8712028. ISSN: 0950-382X.  
CY ENGLAND: United Kingdom  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
OS GENBANK-L09116  
EM 199309  
ED Entered STN: 19931008  
Last Updated on STN: 19931008  
Entered Medline: 19930917

L14 ANSWER 4 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1993:409259 BIOSIS  
 DN PREV199396074984  
 TI Characterization of the *srfA* locus of *Bacillus subtilis*: Only the  
 valine-activating domain of *srfA* is involved in the establishment of  
 genetic competence.  
 AU Van Sinderen, Douwe; Galli, Giuliano; Cosmina, Paola; De Ferra, Francesca;  
 Withoff, Sebo; Venema, Gerard (1); Grandi, Guido  
 CS (1) Dep. Genet., Centre Biol. Sci., NL-9751 NN Haren, Groningen, The  
 Netherlands  
 SO Molecular Microbiology, (1993) Vol. 8, No. 5, pp. 833-841.  
 ISSN: 0950-382X.  
 DT Article  
 LA English

L14 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2002 ACS  
 AN 1991:202375 HCAPLUS  
 DN 114:202375  
 TI Transferase reactions of the .beta.-galactosidase from  
***Streptococcus thermophilus***  
 AU Smart, John B.  
 CS New Zealand Dairy Res. Inst., Palmerston North, N. Z.  
 SO Appl. Microbiol. Biotechnol. (1991), 34(4), 495-501  
 CODEN: AMBIDG; ISSN: 0175-7598  
 DT Journal  
 LA English

L14 ANSWER 6 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
 AN 1980:267054 BIOSIS  
 DN BA70:59550  
 TI ELEVATED GLYCOSYL TRANSFERASE ACTIVITIES IN INFECTED OR TRAUMATIZED HOSTS  
 NONSPECIFIC RESPONSE TO INFLAMMATION.  
 AU CANONICO P G; LITTLE J S; POWANDA M C; BOSTIAN K A; BEISEL W R  
 CS US ARMY MED. RES. INST. INFECT. DIS., FORT DETRICK, FREDERICK, MD. 21701,  
 USA.  
 SO INFECT IMMUN, (1980) 29 (1), 114-118.  
 CODEN: INFIBR. ISSN: 0019-9567.  
 FS BA; OLD  
 LA English

=> d 1-6 kwic

L14 ANSWER 1 OF 6 MEDLINE DUPLICATE 1  
 AB . . . to be similar to *cpsD*, which is the essential gene for the  
 expression of type III capsule in group B ***streptococcus***.  
 Upregulated expression of clone A289C was verified by RNA slot blot  
 hybridization. Similar hydrophobicity values were also observed between  
 A289C. . . (at residues 286-305: transmembrane domains). This result  
 suggested that the insert of clone A289C might play the same function as  
**galactosyl transferase** controlled by the *AmsG* gene in *E.*  
*amylovora*.

L14 ANSWER 2 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
 TI Characterization of **Galactosyl Transferase** of Group B  
***Streptococcus***.  
 IT Major Concepts  
 Enzymology (Biochemistry and Molecular Biophysics); Metabolism;  
 Physiology  
 IT Chemicals & Biochemicals  
**GALACTOSYL TRANSFERASE**  
 ORGN Super Taxa  
 Gram-Positive Cocci: Eubacteria, Bacteria  
 ORGN Organism Name  
 gram-positive cocci (Gram-Positive Cocci); ***Streptococcus***  
 (Gram-Positive Cocci)  
 ORGN Organism Superterms  
 bacteria; eubacteria; microorganisms  
 RN 9031-68-9 (**GALACTOSYL TRANSFERASE**)

AB We showed previously that a mutant strain of group B **Streptococcus** (GBS) defective in capsule production was avirulent. This study describes the derivation of an unencapsulated mutant from a highly encapsulated. . . revealed an open reading frame, designated cpsD, with significant homology to the rfbP gene of *Salmonella typhimurium*. RfbP encodes a **galactosyl transferase** enzyme that catalyses the transfer of galactose to undecaprenol phosphate, the initial step in O-polysaccharide synthesis. A particulate fraction of. . . UDP-galactose to an endogenous acceptor. The galactose-acceptor complex partitioned into organic solvents, suggesting it is lipid in nature or membrane-associated. **Galactosyl transferase** activity was significantly reduced in the unencapsulated mutant strain COH1-13. These results, together with the similarity in deduced amino acid sequence between cpsD and rfbP suggest that cpsD encodes a **galactosyl transferase** essential for assembly of the GBS type III capsular polysaccharide.

CT . . .  
Molecular Sequence Data  
Mutagenesis, Insertional  
Open Reading Frames  
Phagocytosis  
\*Polysaccharides, Bacterial: BI, biosynthesis  
Rats  
Sequence Alignment  
Sequence Homology, Amino Acid  
\***Streptococcus agalactiae**: GE, genetics  
**Streptococcus agalactiae**: ME, metabolism  
Virulence: GE, genetics

L14 ANSWER 4 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

IT . . .  
amino acid sequence; molecular sequence data; nucleotide sequence;  
GENBANK-L09116  
IT Miscellaneous Descriptors  
HOMOLOGY; LIPIDIC GALACTOSE-ACCEPTOR COMPLEX; PHAGOCYTIC KILLING  
SENSITIVITY; RFBP **GALACTOSYL TRANSFERASE** GENE;  
VIRULENCE  
ORGN . . .  
Enterobacteriaceae: Eubacteria, Bacteria; Gram-Positive Cocci:  
Eubacteria, Bacteria  
ORGN Organism Name  
endospore-forming gram-positive rods and cocci (Endospore-forming  
Gram-Positives); *Salmonella typhimurium* (Enterobacteriaceae);  
**Streptococcus** (Gram-Positive Cocci)  
ORGN Organism Superterms  
bacteria; eubacteria; microorganisms

L14 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2002 ACS

TI Transferase reactions of the .beta.-galactosidase from  
**Streptococcus thermophilus**  
ST galactosidase transferase **Streptococcus**  
IT Oligosaccharides  
RL: FORM (Formation, nonpreparative)  
(formation of, by .beta.-galactosidase of **Streptococcus**  
thermophilus)  
IT **Streptococcus thermophilus**  
(galactosidase of, **galactosyl transferase** reactions  
of)  
IT Michaelis constant  
(of .beta.-galactosidase, of **Streptococcus thermophilus**)  
IT 9031-11-2, .beta.-Galactosidase  
RL: RCT (Reactant)  
(**galactosyl transferase** reactions of, of  
**Streptococcus thermophilus**)  
IT 32694-82-9, 3'-Galactosyllactose  
RL: RCT (Reactant)  
(reaction of, with .beta.-galactosidase of **Streptococcus**  
thermophilus, kinetics of)

IT 9031-68-9, **Galactosyl transferase**  
 RL: BAC (Biological activity or effector, except adverse); BIOL  
 (Biological study)  
 (.beta.-galactosidase of **Streptococcus thermophilus** with  
 activity of)

L14 ANSWER 6 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
 AB **Streptococcus pneumoniae** infection leads to multifold increases  
 in sialyltransferase, galactosyltransferase, .alpha.2-fucosyltransferase  
 and .alpha.3-fucosyltransferase activity of rat liver. Such changes may  
 reflect. . . .

IT Miscellaneous Descriptors  
**STREPTOCOCCUS**-PNEUMONIAE RAT LIVER HUMAN SANDFLY FEVER  
 INFECTION ARBOVIRUS BACTERIAL INFECTION BURN TISSUE TRAUMA SIALYL  
 TRANSFERASE **GALACTOSYL TRANSFERASE** ALPHA-2 FUCOSYL  
 TRANSFERASE ALPHA-3 FUCOSYL TRANSFERASE ACUTE PHASE SERUM PROTEINS  
 MACROPHAGES HOST RESPONSE

RN 9031-68-9 (**GALACTOSYL TRANSFERASE**)  
 9033-07-2 (GLYCOSYL TRANSFERASE)  
 9075-81-4 (SIALYL TRANSFERASE)  
 39279-34-0 (ALPHA-3 FUCOSYL TRANSFERASE)  
 56093-23-3 (ALPHA-2 FUCOSYL TRANSFERASE)

=> d 3 ab

L14 ANSWER 3 OF 6 MEDLINE DUPLICATE 2  
 AB We showed previously that a mutant strain of group B **Streptococcus**  
 (GBS) defective in capsule production was avirulent. This study describes  
 the derivation of an unencapsulated mutant from a highly encapsulated  
 wild-type strain of type III GBS, COH1, by transposon mutagenesis with  
 Tn916 delta E. The mutant, COH1-13, was sensitive to phagocytic killing by  
 human leukocytes in vitro and was relatively avirulent in a neonatal rat  
 sepsis model compared with the wild-type strain. No capsular  
 polysaccharide was evident in the cytoplasm or on the cell surface of the  
 mutant strain. The Tn916 delta E insertion site in COH1-13 was mapped to  
 the same chromosomal location as the Tn916 insertion site in the  
 unencapsulated type III mutant COH31-15 reported previously. Nucleotide  
 sequencing of DNA flanking the insertion site in COH1-13 revealed an open  
 reading frame, designated cpsD, with significant homology to the rfbP gene  
 of *Salmonella typhimurium*. RfbP encodes a **galactosyl**  
**transferase** enzyme that catalyses the transfer of galactose to  
 undecaprenol phosphate, the initial step in O-polysaccharide synthesis. A  
 particulate fraction of a lysate of wild-type strain GBS COH1 mediated the  
 transfer of galactose from UDP-galactose to an endogenous acceptor. The  
 galactose-acceptor complex partitioned into organic solvents, suggesting  
 it is lipid in nature or membrane-associated. **Galactosyl**  
**transferase** activity was significantly reduced in the  
 unencapsulated mutant strain COH1-13. These results, together with the  
 similarity in deduced amino acid sequence between cpsD and rfbP suggest  
 that cpsD encodes a **galactosyl transferase** essential  
 for assembly of the GBS type III capsular polysaccharide.

=> s miyake, //au  
 L15 9 MIYAKE, //AU

=> s miyake, ?/au  
 L16 37351 MIYAKE, ?/AU

=> s l16 and l1  
 L17 0 L16 AND L1

=> s watanabe, ?/au  
 L18 272883 WATANABE, ?/AU

=> s l18 and l1  
 L19 3 L18 AND L1

```
=> dup rem l19
PROCESSING COMPLETED FOR L19
L20          3 DUP REM L19 (0 DUPLICATES REMOVED)
```

```
=> d 1-3
```

```
L20  ANSWER 1 OF 3  BIOSIS  COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN   1985:268643  BIOSIS
DN   BA79:48639
TI   INSULIN ACTION ON GLUCOSE TRANSPORT IN CARDIAC MUSCLE.
AU   WATANABE T; SMITH M M; ROBINSON F W; KONO T
CS   DEPARTMENT PHYSIOLOGY, SCHOOL MEDICINE, VANDERBILT UNIVERSITY, NASHVILLE,
     TENN. 37232.
SO   J BIOL CHEM, (1984) 259 (21), 13117-13122.
     CODEN: JBCHA3. ISSN: 0021-9258.
FS   BA; OLD
LA   English
```

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L20  ANSWER 2 OF 3  BIOSIS  COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN   1976:112791  BIOSIS
DN   BA61:12791
TI   SOME PROPERTIES OF UDP GALACTOSE N ACETYL GLUCOSAMINE GALACTOSYL
     TRANSFERASE IN HUMAN PAROTID SALIVA.
AU   NAKAMURA R; WATANABE T; TSUNEMITSU A
SO   J DENT RES, (1975) 54 (4), 808-813.
     CODEN: JDREAF. ISSN: 0022-0345.
FS   BA; OLD
LA   Unavailable
```

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L20  ANSWER 3 OF 3  BIOSIS  COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN   1975:101126  BIOSIS
DN   BA59:1126
TI   THE PRESENCE OF URIDINE 5 DI PHOSPHO GALACTOSE N ACETYL GLUCOSAMINE
     GALACTOSYL TRANSFERASE IN HUMAN SALIVA.
AU   NAKAMURA R; WATANABE T; YASUTAKE A; TSUNEMITSU A
SO   J DENT RES, (1974) 53 (4), 937.
     CODEN: JDREAF. ISSN: 0022-0345.
FS   BA; OLD
LA   Unavailable
```

```
=> s iijima,?/au
L21          18704 IIJIMA,?/AU
```

```
=> s l21 and l1
L22          0 L21 AND L1
```

```
=> s l1 and campylobacter
L23          0 L1 AND CAMPYLOBACTER
```

```
=> s l1 and jejuni
L24          0 L1 AND JEJUNI
```

```
=> s 1,3 galactosyltransferase
      8 FILES SEARCHED...
L25          1714 1,3 GALACTOSYLTRANSFERASE
```

```
=> s l25 and (dna or gene?)
      4 FILES SEARCHED...
      7 FILES SEARCHED...
      9 FILES SEARCHED...
L26          1087 L25 AND (DNA OR GENE?)
```

```
=> s l26 and campylobacter
L27          20 L26 AND CAMPYLOBACTER
```

```
=> dup rem l27
PROCESSING COMPLETED FOR L27
L28          5 DUP REM L27 (15 DUPLICATES REMOVED)
```

=> d 1-5

L28 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2002 ACS  
AN 2002:276514 HCAPLUS  
DN 136:320378  
TI **Campylobacter** glycosyltransferase **genes** and enzymes  
for biosynthesis of gangliosides and ganglioside mimics  
IN Gilbert, Michel; Wakarchuk, Warren W.  
PA Can.  
SO U.S. Pat. Appl. Publ., 84 pp., Cont.-in-part of U.S. Ser. No. 495,406.  
CODEN: USXXCO  
DT Patent  
LA English  
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002042369	A1	20020411	US 2001-816028	20010321
PRAI	US 1999-118213P	P	19990201		
	US 2000-495406	A2	20000131		

L28 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2002 ACS  
AN 2002:37514 HCAPLUS  
DN 137:16281  
TI The **genetic** bases for the variation in the lipo-oligosaccharide  
of the mucosal pathogen, **Campylobacter** jejuni. Biosynthesis of  
sialylated ganglioside mimics in the core oligosaccharide  
AU Gilbert, Michel; Karwaski, Marie-France; Bernatchez, Stephane; Young, N.  
Martin; Taboada, Eduardo; Michniewicz, Joseph; Cunningham, Anna-Maria;  
Wakarchuk, Warren W.  
CS Institute for Biological Sciences, National Research Council of Canada,  
Ottawa, ON, K1A 0R6, Can.  
SO J. Biol. Chem. (2002), 277(1), 327-337  
CODEN: JBCHA3; ISSN: 0021-9258  
PB American Society for Biochemistry and Molecular Biology  
DT Journal  
LA English  
RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 1  
AN 2000:553711 HCAPLUS  
DN 133:161277  
TI **Campylobacter** glycosyltransferases for biosynthesis of  
gangliosides and ganglioside mimics  
IN Gilbert, Michel; Wakarchuk, Warren W.  
PA National Research Council of Canada, Can.  
SO PCT Int. Appl., 120 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000046379	A1	20000810	WO 2000-CA86	20000201
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1147200	A1	20011024	EP 2000-901455	20000201
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, LT, LV, FI, RO				
PRAI	US 1999-118213P	P	19990201		
	US 2000-495406	A	20000131		
	WO 2000-CA86	W	20000201		



RE.CNT 11 THERE ARE 11 CITATIONS AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 4 OF 5 MEDLINE DUPLICATE 2  
AN 2000127862 MEDLINE  
DN 20127862 PubMed ID: 10660542  
TI Biosynthesis of ganglioside mimics in **Campylobacter jejuni**  
OH4384. Identification of the glycosyltransferase **genes**,  
enzymatic synthesis of model compounds, and characterization of nanomole  
amounts by 600-mhz (1)h and (13)c NMR analysis.  
AU Gilbert M; Brisson J R; Karwaski M F; Michniewicz J; Cunningham A M; Wu Y;  
Young N M; Wakarchuk W W  
CS Institute for Biological Sciences, National Research Council of Canada,  
Ottawa, Ontario K1A 0R6, Canada.  
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (2000 Feb 11) 275 (6) 3896-906.  
Journal code: 2985121R. ISSN: 0021-9258.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
OS GENBANK-AF130466; GENBANK-AF130984; GENBANK-AF167345  
EM 200003  
ED Entered STN: 20000327  
Last Updated on STN: 20000327  
Entered Medline: 20000316

L28 ANSWER 5 OF 5 MEDLINE DUPLICATE 3  
AN 2000430460 MEDLINE  
DN 20392205 PubMed ID: 10931344  
TI Phase variation of a beta-1,3  
**galactosyltransferase** involved in **generation** of the  
ganglioside GM1-like lipo-oligosaccharide of **Campylobacter**  
**jejuni**.  
AU Linton D; Gilbert M; Hitchen P G; Dell A; Morris H R; Wakarchuk W W;  
Gregson N A; Wren B W  
CS Department of Infectious and Tropical Diseases, London School of Hygiene  
and Tropical Medicine, London WC1E 7HT, UK.  
SO MOLECULAR MICROBIOLOGY, (2000 Aug) 37 (3) 501-14.  
Journal code: 8712028. ISSN: 0950-382X.  
CY ENGLAND: United Kingdom  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 200009  
ED Entered STN: 20000922  
Last Updated on STN: 20000922  
Entered Medline: 20000912

=> s l28 and acetylglucosamine  
L29 0 L28 AND ACETYLGLUCOSAMINE

=> s l28 and N-acetylglucosamine  
L30 0 L28 AND N-ACETYLGLUCOSAMINE

=> s l28 and N-acetylGALACTOsamine  
L31 0 L28 AND N-ACETYLGALACTOSAMINE

=> D 1-5 AB

L31 HAS NO ANSWERS

'1-5 ' IS NOT A VALID SEARCH STATUS KEYWORD

Search status keywords:

NONE ---- Display only the number of postings.

STATUS -- Display statistics of the search.

ENTER SEARCH STATUS OPTION (NONE), STATUS, OR ?:NONE

L25 1714 SEA 1,3 GALACTOSYLTRANSFERASE

L26 1087 SEA L25 AND (DNA OR GENE?)

L27 20 SEA L26 AND CAMPYLOBACTER

L28 5 DUP REM L27 (15 DUPLICATES REMOVED)

=&gt; D L28 1-5 AB

L28 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2002 ACS

AB This invention provides **Campylobacter jejuni** glycosyltransferases, including a bifunctional sialyltransferase that has both an .alpha.2,3- and an .alpha.2,8-activity. A .beta.1,4-GaINAc transferase and a .beta.1,3-galactosyltransferase are also provided by the invention, as are other glycosyltransferases and enzymes involved in synthesis of lipooligosaccharide (LOS). In addnl. embodiments, the invention provides nucleic acids that encode the glycosyltransferases, as well as expression vectors and host cells for expressing the glycosyltransferases. The enzymes may be used in prepn. of gangliosides, lysogangliosides, and mimics of gangliosides and lysogangliosides. Thus, *C. jejuni* **gene** cstI .alpha.2,3-sialyltransferase, **gene** cstII bifunctional .alpha.2,3/.alpha.2,8-sialyltransferase, **gene** cgtA .beta.-1,4-N-acetylgalactosaminyltransferase, and **gene** cgtB .beta.-1,3-galactosyltransferase enzymes were used to prep. the carbohydrate portion of gangliosides GM1a, GM2, GM3, GD1a, GD3, and GT1a.

L28 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2002 ACS

AB The lipo-oligosaccharide (LOS) biosynthesis loci from 11 **Campylobacter jejuni** strains expressing a total of 8 different ganglioside mimics in their LOS outer cores were compared. Based on the organization of the **genes**, the 11 corresponding loci could be classified into 3 classes, with one of them being clearly an intermediate evolutionary step between the other two. Comparative genomics and expression of specific glycosyltransferases combined with in vitro activity assays allowed identification of .gtoreq.5 distinct mechanisms that allow *C. jejuni* to vary the structure of the LOS outer core as follows: (1) different **gene** complements; (2) phase variation because of homopolymeric tracts; (3) **gene** inactivation by the deletion or insertion of a single base (without phase variation); (4) single mutation leading to the inactivation of a glycosyltransferase; and (5) single or multiple mutations leading to "allelic" glycosyltransferases with different acceptor specificities. The differences in the LOS outer core structures expressed by the 11 *C. jejuni* strains examd. can be explained by one or more of these 5 mechanisms.

L28 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 1

AB This invention provides prokaryotic glycosyltransferases, including a bifunctional sialyltransferase that has both an .alpha.2,3- and an .alpha.2,8- activity. A .beta.1,4-GalNAc transferase and a .beta.1,3-galactosyltransferase are also provided by the invention, as are other glycosyltransferases and enzymes involved in synthesis of lipooligosaccharide (LOS). The glycosyltransferases can be obtained from, for example, **Campylobacter** species, including *C. jejuni*. In addnl. embodiments, the invention provides nucleic acids that encode the glycosyltransferases, as well as expression vectors and host cells for expressing the glycosyltransferases.

L28 ANSWER 4 OF 5 MEDLINE DUPLICATE 2

AB We have applied two strategies for the cloning of four **genes** responsible for the biosynthesis of the GT1a ganglioside mimic in the lipooligosaccharide (LOS) of a bacterial pathogen, **Campylobacter jejuni** OH4384, which has been associated with Guillain-Barre syndrome. We first cloned a **gene** encoding an alpha-2, 3-sialyltransferase (cst-I) using an activity screening strategy. We then used nucleotide sequence information from the recently completed sequence from *C. jejuni* NCTC 11168 to amplify a region involved in LOS biosynthesis from *C. jejuni* OH4384. The LOS biosynthesis locus from *C. jejuni* OH4384 is 11.47 kilobase pairs and encodes 13 partial or complete open reading frames, while the corresponding locus in *C. jejuni* NCTC 11168 spans 13.49 kilobase pairs and contains 15 open reading frames, indicating a different organization between these two strains. Potential glycosyltransferase **genes**

were cloned individually, expressed in *Escherichia coli*, assayed using synthetic fluorescent oligosaccharides as acceptors. We identified genes encoding a beta-1, 4-N-acetylgalactosaminyl-transferase (cgtA), a beta-1, 3-galactosyltransferase (cgtB), and a bifunctional sialyltransferase (cst-II), which transfers sialic acid to O-3 of galactose and to O-8 of a sialic acid that is linked alpha-2,3- to a galactose. The linkage specificity of each identified glycosyltransferase was confirmed by NMR analysis at 600 MHz on nanomole amounts of model compounds synthesized in vitro. Using a gradient inverse broadband nano-NMR probe, sequence information could be obtained by detection of (3)J(C,H) correlations across the glycosidic bond. The role of cgtA and cst-II in the synthesis of the GT1a mimic in *C. jejuni* OH4384 were confirmed by comparing their sequence and activity with corresponding homologues in two related *C. jejuni* strains that express shorter ganglioside mimics in their LOS.

L28 ANSWER 5 OF 5 MEDLINE DUPLICATE 3  
 AB Ganglioside mimicry by *Campylobacter jejuni* lipo-oligosaccharide (LOS) is thought to be a critical factor in the triggering of the Guillain-Barre and Miller-Fisher syndrome neuropathies after *C. jejuni* infection. The combination of a completed genome sequence and a ganglioside GM1-like LOS structure makes *C. jejuni* NCTC 11168 a useful model strain for the identification and characterization of the genes involved in the biosynthesis of ganglioside-mimicking LOS. Genome analysis identified a putative LOS biosynthetic cluster and, from this, we describe a putative gene (ORF Cj1139c), which we have termed wlaN, with a significant level of similarity to a number of bacterial glycosyltransferases. Mutation of this gene in *C. jejuni* NCTC 11168 resulted in a LOS molecule of increased electrophoretic mobility, which also failed to bind cholera toxin. Comparison of LOS structural data from wild type and the mutant strain indicated lack of a terminal beta-1,3-linked galactose residue in the latter. The wlaN gene product was demonstrated unambiguously as a beta-1, 3 galactosyltransferase responsible for converting GM2-like LOS structures to GM1-like by in vitro expression. We also show that the presence of an intragenic homopolymeric tract renders the expression of a functional wlaN gene product phase variable, resulting in distinct *C. jejuni* NCTC 11168 cell populations with alternate GM1 or GM2 ganglioside-mimicking LOS structures. The distribution of wlaN among a number of *C. jejuni* strains with known LOS structure was determined and, for *C. jejuni* NCTC 12500, similar wlaN gene phase variation was shown to occur, so that this strain has the potential to synthesize a GM1-like LOS structure as well as the ganglioside GM2-like LOS structure proposed in the literature.

=> D L14 3

L14 ANSWER 3 OF 6 MEDLINE DUPLICATE 2  
 AN 93360815 MEDLINE  
 DN 93360815 PubMed ID: 8355611  
 TI Identification of cpsD, a gene essential for type III capsule expression in group B streptococci.  
 AU Rubens C E; Heggen L M; Haft R F; Wessels M R  
 CS Division of Infectious Disease, Children's Hospital and Medical Center, Seattle, Washington 98105.  
 NC AI22498 (NIAID)  
 AI28040 (NIAID)  
 SO MOLECULAR MICROBIOLOGY, (1993 May) 8 (5) 843-55.  
 Journal code: 8712028. ISSN: 0950-382X.  
 CY ENGLAND: United Kingdom  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA English  
 FS Priority Journals  
 OS GENBANK-L09116  
 EM 199309  
 ED Entered STN: 19931008  
 Last Updated on STN: 19931008  
 Entered Medline: 19930917

=> D L14 3 AB

L14 ANSWER 3 OF 6 MEDLINE

DUPLICATE 2

AB We showed previously that a mutant strain of group B **Streptococcus** (GBS) defective in capsule production was avirulent. This study describes the derivation of an unencapsulated mutant from a highly encapsulated wild-type strain of type III GBS, COH1, by transposon mutagenesis with Tn916 delta E. The mutant, COH1-13, was sensitive to phagocytic killing by human leukocytes in vitro and was relatively avirulent in a neonatal rat sepsis model compared with the wild-type strain. No capsular polysaccharide was evident in the cytoplasm or on the cell surface of the mutant strain. The Tn916 delta E insertion site in COH1-13 was mapped to the same chromosomal location as the Tn916 insertion site in the unencapsulated type III mutant COH31-15 reported previously. Nucleotide sequencing of DNA flanking the insertion site in COH1-13 revealed an open reading frame, designated cpsD, with significant homology to the rfbP gene of *Salmonella typhimurium*. RfbP encodes a **galactosyl transferase** enzyme that catalyses the transfer of galactose to undecaprenol phosphate, the initial step in O-polysaccharide synthesis. A particulate fraction of a lysate of wild-type strain GBS COH1 mediated the transfer of galactose from UDP-galactose to an endogenous acceptor. The galactose-acceptor complex partitioned into organic solvents, suggesting it is lipid in nature or membrane-associated. **Galactosyl transferase** activity was significantly reduced in the unencapsulated mutant strain COH1-13. These results, together with the similarity in deduced amino acid sequence between cpsD and rfbP suggest that cpsD encodes a **galactosyl transferase** essential for assembly of the GBS type III capsular polysaccharide.

=> DIS HIS

(FILE 'HOME' ENTERED AT 18:02:16 ON 06 AUG 2002)

FILE 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS, ESBIODBASE, BIOTECHNO, WPIDS' ENTERED AT 18:02:26 ON 06 AUG 2002

L1 2839 S GALACTOSYL (2W)TRANSFERASE  
L2 52 S L1 (10A) ACETYLGLUCOSAMINE  
L3 1 S L2 (10A) 1,3  
L4 10 S L2 AND 1,3  
L5 7 DUP REM L4 (3 DUPLICATES REMOVED)  
L6 257 S L1 AND ACETYLGLUCOSAMINE  
L7 205 S L6 NOT L2  
L8 153 DUP REM L7 (52 DUPLICATES REMOVED)  
L9 17 S L7 AND 1,3  
L10 15 DUP REM L9 (2 DUPLICATES REMOVED)  
L11 0 S L6 AND STREPTOCOCCUS  
L12 2894 S GALACTOSYL (3W)TRANSFERASE  
L13 13 S L12 AND STREPTOCOCCUS  
L14 6 DUP REM L13 (7 DUPLICATES REMOVED)  
L15 9 S MIYAKE, //AU  
L16 37351 S MIYAKE, ?/AU  
L17 0 S L16 AND L1  
L18 272883 S WATANABE, ?/AU  
L19 3 S L18 AND L1  
L20 3 DUP REM L19 (0 DUPLICATES REMOVED)  
L21 18704 S IJIMA, ?/AU  
L22 0 S L21 AND L1  
L23 0 S L1 AND CAMPYLOBACTER  
L24 0 S L1 AND JEJUNI  
L25 1714 S 1,3 GALACTOSYLTRANSFERASE  
L26 1087 S L25 AND (DNA OR GENE?)  
L27 20 S L26 AND CAMPYLOBACTER  
L28 5 DUP REM L27 (15 DUPLICATES REMOVED)  
L29 0 S L28 AND ACETYLGLUCOSAMINE  
L30 0 S L28 AND N-ACETYLGLUCOSAMINE  
L31 0 S L28 AND N-ACETYLALACTOSAMINE

=> LOG H  
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
197.70	197.91

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-1.86	-1.86

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